SIMS

SIMS Teacher app
Technical Overview

Version 4.8

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Information use and disclaimer

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Introduction

About the SIMS Teacher app

The SIMS Teacher app has been designed to make every day classroom administration tasks easy – the app makes it effortless for teachers to record attendance data for every pupil. The app already knows which class you're in and displays your pupils. Select all as present with a simple touch and you can get back to your class. If you need to mark a pupil late, the app automatically indicates the current number of minutes past the class start time.

By tapping a pupil's picture, a teacher can record attendance, record achievement or behaviour points and record minutes late to class. They can also see at a glance if the pupil has been awarded behaviour points in a previous class that day, making teachers aware of those who are likely to misbehave in their lesson.

We have an exciting programme of new developments actively underway for the SIMS Teacher app, with a rolling plan of updates and releases over the coming year.

What are the benefits of using the SIMS Teacher app for the school?

At SIMS we believe that great teaching matters and every school can be outstanding. The SIMS Teacher app helps teachers to focus more on what they do best... teach!

The SIMS Teacher app has been designed specifically to support teachers and support staff in achieving even more by simplifying key classroom activities and reducing time spent on classroom administration.

How the Teacher app helps schools and teachers:

✓ Makes registration quicker and easier in class - or on the go (offline access currently iOS only).

✓ Supports safeguarding with real-time attendance updates for pupils and students.

✓ Monitor achievement and behaviour for students in real-time.

✓ Flexible secure access to update conduct and assessment results - in school or at home.

✓ Makes key classroom admin tasks simple so teachers can spend more time with students.

SIMS Teacher app platform availability

Please refer to this article on the support portal.

Teacher app management, security and administration

Please refer this article on the support portal.

SIMS Teacher app: Technical Solution Overview

Overview

The SIMS Teacher app solution is a fully managed, securely hosted web delivered tablet application and supporting secure data services that integrate with a school's SIMS system, delivered utilising Microsoft's Azure Platform located in northern Europe.

Microsoft Azure is available under the latest version of the G-Cloud Framework (v6) and has accreditation from the UK Government Pan Government Accreditor to store and process OFFICIAL level data, which includes personal information and data that falls under the protection of the Data Protection Act (1998), such as health records, plus other data such as public safety, criminal justice, defence and security information.

Data is securely transferred in real-time and encrypted between the school's SIMS system (locally or centrally hosted) via the web using standard secure HTTPS TCP/IP protocols to devices authenticated by the school. No school data is stored in the Azure platform (cloud) – data is only transferred via the Microsoft Windows Azure platform (Service Bus).

All data is securely transferred and processed within the EU and complies with UK data protection standards and requirements.

Once the school has provided the device authorisation and teacher account activation, the Teacher app service can be accessed by teachers via tablet devices. Teachers can access the Teacher app in school or remotely from their internet-connected tablet, or offline for selected data items and for limited time periods.

The SIMS Teacher app service takes full advantage of the elastic architecture built into the Microsoft Windows Azure platform, ensuring that all components of the service are scalable and resilient to cope with the planned and unplanned demand and un-expected events that will occur during the life of the service.

The SIMS Teacher app solution is managed in compliance with the principles of ITIL best practice, and maintained in accordance with the principals of continual service improvement. Regular management reporting, and sharing of key performance metrics, ensures that the continual service improvement cycle is embedded across all areas of the service.

Security

All traffic to and from the SIMS Teacher app service is accessed using standard web protocols (HTTPS) and secured using the appropriate SSL certificates. Services are tiered following industry and software vendor best practice principles.

The network architecture is compliant to ISO27001 and utilises a multi-tier isolated VLAN design with fully managed software firewalls on each server, IDS/IPS, SQL firewalls, data encryption and load balancing to ensure security and performance for all users of the SIMS Teacher app service.

The SIMS Teacher app service is fully penetration tested at the application layer and externally by a nominated Security company every quarter.

The SIMS Teacher app service provides authentication in accordance with the UK government's National Technical Authority for Information Assurance (CESG) 'Guidance for End User Devices Security Guidance: General Security Recommendations':

1. **User to service**: The user is only able to access the SIMS Teacher app service after successfully authenticating to the service, via their device.

2. **Device to service**: By default, only devices which can authenticate to the SIMS Teacher app service are granted access.

Hosting Environment

No school data is stored in the Microsoft Azure platform (cloud) hosting environment – data is only transferred via the Azure platform (enterprise relay) between the school's SIMS system and tablet devices authorised by the school.

Microsoft takes the physical security of their data centres very seriously, with stringent policies and procedures to ensure compliance with their own, and industry recognised security standards.

The controls include:

- **24 hour monitored physical security**. Datacentres delivering the Azure service are physically constructed, managed, and monitored to shelter data and services from unauthorised access as well as environmental threats.

- **Monitoring and logging**. Security is monitored with the aid of centralised monitoring, correlation, and analysis systems that manage the large amount of information generated by devices within the environment and providing timely alerts. In addition, multiple levels of monitoring, logging, and reporting are available to provide visibility to customers.

- **Patching**. Integrated deployment systems manage the distribution and installation of security patches.

- **Antivirus/Antimalware protection**. Microsoft Antimalware is built-in to Cloud Services to help identify and remove viruses, spyware and other malicious software and provide real time protection.

- **Intrusion detection and DDoS**. Intrusion detection and prevention systems, denial of service attack prevention, regular penetration testing, and forensic tools help identify and mitigate threats from both outside and inside of the Microsoft Windows Azure platform.

- **Zero standing privileges**. Access to customer data by Microsoft operations and support personnel is denied by default.

- **Isolation**. Azure uses network isolation to prevent unwanted communications between deployments, and access controls block unauthorised users.

The latest information on the Microsoft Azure Security policies can be found in the Azure Trust Centre: http://azure.microsoft.com/en-gb/support/trust-center/security/.

These security controls are continually monitored, reviewed, and updated to ensure that the integrity of these controls is maintained at all times.

Business Continuity and Disaster Recovery

The SIMS Teacher app service has 24-7-365 system availability except for scheduled maintenance (out of business hours).

The Teacher app service has layers of business continuity built into it, from the redundancy of individual components, to resilience across multiple data centres in separate geographical locations within the EU.

The solution takes full advantage of the elastic architecture built into the Microsoft Windows Azure platform, ensuring that all components of the service are scalable and resilient to cope with planned and unplanned demand and unexpected events that will occur during the life of the service.

Within this logical architecture all components will be delivered using a redundant and resilient architecture ensuring all aspects of the environment have appropriate fault tolerance.

Within the environment the following techniques are used;

- **Highly Available Hardware**. Servers delivering the Azure service are spread across multiple racks within the Windows Azure Data Centre. Each server utilises separate power feeds and connected via different switches.

- **Load Balancing**. Access to services is delivered by a load balancer which constantly monitors the service provided by each server. In the event of an individual server failure, traffic is automatically re-routed other functioning servers within the environment.

- The SQL infrastructure has been designed to use Microsoft Always-On Availability groups to deliver a highly available SQL solution.

- In addition, a full disaster recovery strategy and plan is in place, with regular testing ensure that disruption to the service is minimised in the event of a disaster occurring.

Application Security

The SIMS Teacher app is a securely hosted web delivered service via the web using standard HTTPS TCP/IP protocols, with 256-bit Secure Socket Layer (SSL) point-to-point encryption.

Data stored on the teacher's authorised device is encrypted using the international industry standard AES 256-bit encryption (Advance Encryption Standard). The encryption key is a combination of device specific information and a user PIN number sequence.

The SIMS Services Manager

The SIMS Teacher app service utilises the SIMS Services Manager to provide the data-interoperability element of the service. The SIMS Services Manager provides the link between the Teacher app service and the school's SIMS system.

The SIMS Services Manager has been designed to help provide a unified data transport service for hosted SIMS products to ensure they require minimal setup, configuration and involvement from the school or SIMS support team.

The SIMS Services Manager requires .NET framework 4.6.1 (Full Profile) on the server hosting the service, but 4.7.2 is advised. Otherwise it has the same pre-requisites as a SIMS Server on the SIMS technical roadmap.

Centrally hosted environments can use the SIMS Services Manager user interface as above to setup all of the connection and school information per site. Alternately, the support team can edit the settings.xml file located in the \ProgramData\SIMS\SIMS Services Manager. This is recommended if there are multiple sites to manage.

Further information about the SIMS Services Manager is available through the support portal.

The SIMS Data Service

This SIMS data service is installed within a school or centrally hosted location and is used to connect to the school's SIMS database – this provides data to the remote tablet application via a connection to the Azure Service Bus Relay. It is secured as follows:

- By default it runs under the Network Service account as part of the SIMS Services Manager. This can be changed by the installer of the SIMS Services Manager to a more restricted account.

- The use of the Azure Service Bus Relay means that no inbound connections need be opened by the school/hosted service. The school only requires an outbound connection.

- In order to connect to its end point in the Azure Service Bus Relay it authenticates against the relay using a short life expiring Shared Access Signature which is supplied by the Service Bus Relay manager.

- The endpoint URL (non-domain section) is randomised by the Service Bus Relay Manager each time the service starts up and requests endpoint creation.

- Once connection is established, calls to the data services via the Service Bus Relay are protected by the Web Token supplied via the login web services which identifies the connecting user within the SIMS database.

- The data services user this information to fully respect SIMS user permissions – therefore an accessing account needs to be enabled within the Teacher app management system and within the SIMS system.

SIMS Teacher app offline working

Key points about the SIMS Teacher app offline working:

- Allows teachers to download their current day's lessons and then access these where no internet connection is available; for example out on the games field, walking between buildings or on a school day trip.

- Teachers can take registration, record achievement and behaviour and view student details when offline – then auto-syncs back to SIMS when the teacher goes back online.

- Allows the teacher to view only their own lessons/sessions for the current working day.

- Downloaded data is securely cached on the teacher's device until they re-connect to the internet and synchronise any changes back to the school's SIMS system.

- School administrators can choose which teachers can take their day's lessons offline to access.

- Offline working is available for the Apple iOS and Windows versions of the Teacher app.

All meaningful data stored on the teacher's authorised device is encrypted using the international industry standard AES 256-bit encryption (Advance Encryption Standard). The encryption key is a combination of device specific information and a user defined PIN number sequence. The cached data is also excluded from any iTunes or iCloud back-up for the iOS platform.

Please also see Offline Working frequently asked questions within this document

Accreditations

The SIMS Teacher app service is managed in compliance with the principles of ITIL best practice, and maintained in accordance with the principals of continual service improvement.

Education Software Solutions is accredited for:

- ISO 27001 – Information Security Management System (ISMS).

- ISO 9001 certification to deliver IT products and services which meet international quality standards.

Setup and installation of the Teacher app

School ordering of the SIMS Teacher app service

The Teacher app pricing is based on an annual pro-rata subscription, (1 or 3 year terms), with all subscriptions renewing on 1st April. Subscriptions are based on a charge per pupil, per year.

To sign-up for the SIMS Teacher app service, schools will complete an online order request form that will be available from the SIMS website. The online order request will be processed by Education Software Solutions (ESS). We aim to process a school's order within a few working days of receiving the order request (excluding UK weekends and bank holidays).

If we require further information to help verify the school's order request, we will contact the school at the email address provided. Where further information is required or needs to be verified, it may take longer to process a school's order request.

The school contact who made the order request will receive an automatic email acknowledgment when an order request for the Teacher app has been received by ESS.

Teacher app order confirmation and setup

Once a school's order has been verified and processed, the school will receive the following information:

1. Order confirmation & getting started details

- The school contact who ordered the Teacher app will receive a confirmation email containing details of how to download the installation and setup information needed to get started with the SIMS Teacher app service for the school.

- This email should be forwarded by the school contact to their SIMS technical support for installation.

- The order confirmation email will provide a unique link (URL) for the school. The school's SIMS technical support will be able to access this link and download the installation and configuration files required to setup the Teacher app service onto the school's SIMS system.

2. SIMS Teacher app agreement summary (contract)

- Following the school's order confirmation by email, they will receive a SIMS Teacher app agreement summary document (contract) from their SIMS contact - this will need to be signed and sent back to ESS within 2 weeks of receiving the agreement document otherwise the SIMS Teacher app service may be suspended.

About the SIMS Teacher app service setup

The Teacher app service configuration has been designed to be self-service by the school's SIMS IT support – there are 2 phases to the setup and getting started with the app – these are outlined below, and are detailed further in supporting information the school will receive.

PHASE 1 – Technical setup and configuration (completed by the school's SIMS IT support)

Step 1: Check the SIMS teacher app pre-requisites.

Step 2: Using the link within the Teacher app order confirmation email, register the school via the SIMS Teacher app setup site.

Step 3: Download the setup and configuration folder from the setup site.

Step 4: Create an External Access Account.

Step 5 Configure the SIMS Services Manager and the Teacher app services.

PHASE 2 – Managing devices and teacher access (managed by a school administrator)

Step 6: Access the online Teacher app management console – to create device association codes (if required) and teacher activation codes.

Step 7: Download the Teacher app from the app Store and start using the app.

Once the Teacher app services have been configured the school will be able to get started with the Teacher app in school. The school's data is provisioned and updated in real-time as part of the Teacher app service – there is no scheduled data synchronisation or manual refresh required for the Teacher app.

The school (or SIMS support team if offering an agreed service for the school) will have access to a web-based SIMS Teacher app administration console – this will allow an administrator to manage access for teachers – including activating devices and also activating teacher accounts to use the Teacher app for their school.

Please note: the installation and setup of the SIMS Teacher app and configuration of the SIMS Services Manager should be completed by a person with operational technical knowledge of the SIMS database for the school.

The person who completes the installation will need to have:

1. Access to the schools SIMS SQL database.
2. SA (system administration) permissions.
3. Access to the SA password for your SIMS SQL instance if the account logging into the server with does not have SQL System Admin permissions.
4. Admin level access to SIMS.
5. Knowledge on how to apply patches using dbUpgrade.

Devices

SIMS does not provide devices (iPads or other tablet devices) as part of the Teacher app service – schools are required to provide the devices to be used by teaching staff.

Teacher app frequently asked questions

What does the SIMS Teacher app do?

The SIMS Teacher app has been designed to make every day classroom tasks easy – the app makes it effortless for teachers to record attendance data for every pupil. The app already knows which class you're in and displays your pupils. Select all as present with a simple touch and you can get back to your class. If you need to mark a pupil late, the app automatically indicates the current number of minutes past the class start time.

By tapping a pupil's picture, a teacher is able to record attendance, record achievement or behaviour points and record minutes late to class. They can also see at a glance if the pupil has been awarded behaviour points in a previous class that day, making teachers aware of those who are likely to misbehave in their lesson.

We have an exciting programme of new developments actively underway for the SIMS Teacher app, with a rolling plan of updates and releases over the coming year.

What are the benefits of using the SIMS Teacher app for the school?

At SIMS we believe that great teaching matters and every school can be outstanding. The SIMS Teacher app helps teachers to focus more on what they do best... teaching.

▪ The SIMS Teacher app has been designed specifically to support teachers in achieving even more by simplifying key classroom activities and reducing time spent on classroom administration.

▪ With real-time access to timetables and student information, the SIMS Teacher app helps to accelerate the flow of information throughout the school to extend improved teaching and learning.

▪ By making everyday classroom tasks simple for teachers, they can spend more time on teaching and learning – supporting children to achieve their full potential.

Does the school have to pay an installation or connection charge for the SIMS Teacher app?

No – the SIMS Teacher app has been designed to be self-service for the school/supporting SIMS support team, which means we do not require an installation or connection charge.

How Is the SIMS Teacher app installed/setup?

The SIMS Teacher app has been design to support a self-service or supported setup process. The necessary files to enable the SIMS Teacher app service will be available as an online download file, which can then be configured by the school's technical support team.

Once the Teacher app services have been configured in the SIMS Services Manager, the school will be able to get started with the Teacher app in school. The school's data is provisioned and updated in real-time as part of the Teacher app service – there are no scheduled data synchronisation or manual refresh required for the Teacher app.

The school will have access to a web-based SIMS Teacher app administration console – this will allow an administrator at school to manage access for teachers – including activating devices and also activating teacher accounts to use the Teacher app for their school.

Will the school have to take their SIMS data and export this into/through a separate 3rd party non-SIMS managed system to use the Teacher app?

No – as an integrated SIMS system, the SIMS Teacher app integrates securely and seamlessly with the school's SIMS system. No data ever has to be exported or output by the school into a non-SIMS managed system.

SIMS and the SIMS Teacher app service have been designed, developed and are managed entirely by SIMS and provide the highest levels of security and compliance with UK data protection standards and requirements.

What are the technical pre-requisites for the school to use the SIMS Teacher app?

Please refer to the SIMS Teacher app System Setup Guide on the support portal.

What devices can the school use for the SIMS Teacher app?

Please refer to this article on the support portal.

How does the SIMS Teacher app talk to SIMS?

The SIMS Teacher app talks to the school's SIMS system via the SIMS Services Manager that is configured on the school's SIMS server. The SIMS Services Manager applies two layers of authentication (device and user) before allowing data to be transmitted. Transmitted data is encrypted so that it can only be decoded by the device it is being sent to.

Is the data access through the Teacher app secure?

Yes – the SIMS Teacher app is a securely hosted web delivered service via the web using standard HTTPS TCP/IP protocols, with 256-bit Secure Socket Layer (SSL) point-to-point encryption.

Data stored on the teacher's authorised device is encrypted using the international industry standard AES 256-bit encryption (Advance Encryption Standard). The encryption key is a combination of device specific information and a user PIN number sequence.

All information accessed by the SIMS Teacher app is secure and only accessible by completing several security steps and automated checks.

The SIMS Teacher app only works with devices that the school has registered and provided an activation code for. The data is encrypted for the device and the user.

The SIMS Teacher app also works with two-factor authentication (2FA) where users accessing the app have this enabled. Two-factor authentication is setup within the user's Microsoft, Office 365, Google or Apple account and when   enabled, each time a teacher access their SIMS Teacher app, they will be asked for two pieces of information in addition to their username. They will be requested for your password plus a security code and will only gain access to the system with these details.

What happens with the data when the Teacher app is offline?

When a teacher logs in via their Microsoft/Office 365/Google/Apple account they are required to enter a 4-digit PIN twice. On successful login the Teacher app will automatically perform a silent download of the teacher's lesson data for that day only – the cached data will be stored in a unique encrypted Offline Data Store on the device.

The offline data access is intended to provide teacher's with the ability to record attendance, behaviour and achievement information where no internet access is available, for example during a fire alarm drill, on the games field or out on a school day trip.

The SIMS Teacher app will work wherever there is an internet connection – in school or outside of school – the offline access is intended to provide a support for teachers where connectivity may be unavailable for short periods of time.

The following information is cached:
- Only the data for the logged-in teacher's data is cached for that working day only.
- The teacher's timetable view for the week.
- Each session and lesson in the timetable for the current day only.
- Summary information for each student who is in a session/lesson for that day only.
- Student detail information for each student who is in the teacher's session/lesson for that day only.
- Information required to take attendance for each session and lesson in the day only.
- Information required to record an achievement event.
- Information required to record a behaviour event.

Is the cached data secure?

Yes - the information that is cached to allow offline access is stored on the device in a unique, separate secure and isolated storage location on the teacher's device. The folder is encrypted using key value pairs and AES 256bit encryption. The encryption key is a combination of the device specific information and the user entered PIN.

Can any data cached offline get transferred to the Apple iCloud or iTunes?

No - the information is stored in the teacher's SIMS Teacher app isolated storage location folder, which is encrypted and separate from other folders on the device and is not uploaded to external storage facilities, such as the iCloud, if the teacher's device gets backed up.

How does the SIMS Teacher app talk to SIMS?

The SIMS Teacher app talks to the school's SIMS system via the SIMS Services Manager that is configured on the school's SIMS server. The SIMS Services Manager applies two layers of authentication (device and user) before allowing data to be transmitted. Transmitted data is encrypted so that it can only be decoded by the device it is being sent to.

Can the school Teacher app administrator/teachers enable two-factor authentication (2FA)?

Yes – Education Software Solutions recommend that schools enable two-factor authentication for their SIMS Teacher app administrator account as an extra layer of security.

Two-factor authentication provides an increased level of security for a Microsoft, Office 365, Google or Apple account as additional information will be required in order to gain access. This would provide increased reassurance to both the school and the parents.

Two-factor authentication is enabled within the Microsoft, Office 365, Google or Apple account and when setup, each time an administrator or teacher accesses their SIMS Teacher app they will be asked for two pieces of information in addition to their username. They will be asked to enter a password plus a security code and will only gain access to the system with these details.

Microsoft, Google and Apple send a unique access code to a designated mobile phone via SMS, to a Microsoft/Google/Apple app, or via email - this code will provide secure access to the Teacher app. Two-step verification protects you everywhere a Microsoft, Google or Apple account is used.

Why do teachers need to register their email address with a Microsoft/Office 365/Google/Apple account to access the SIMS Teacher app?

When teachers first access the SIMS Teacher app, they will be required to choose either a Microsoft, Google or Apple account to authenticate their Teacher app account with. Once this has been done the teacher will be required to enter an activation code supplied by the school administrator plus a secondary piece of data from SIMS.

Once the successful activation has been completed, each time the teacher logs into the Teacher app, they will be required to sign-in with their selected Microsoft, Google or Apple details.

We have chosen to use Microsoft, Office 365, Google and Apple identity provision, as many teachers will already have one of these accounts. This has the added advantage that teachers don't have to remember different usernames and passwords and they are always in control of your own access details.

The SIMS Teacher app uses the Microsoft/ Office 365/Google/Apple account for safety and to provide secure authentication when you log in to the app – we do not require any additional information from your account, only what is needed for authentication.

Can teachers use their existing school email address for a Microsoft/Office 365/Google/Apple account?

Yes – when creating a Microsoft/Office 365 /Google/Apple account teachers can use their own school email address (it does not have to be a Microsoft email address) and use their own password.

Teachers who already have a Microsoft, Office 365, Google or Apple account can use their existing access details for the Teacher app.

Offline working frequently asked questions

What does the offline working do – how does this help the teacher using the app?

When offline working is enabled for the teacher by the school administrator, the teacher can download their current day's lessons and students within the downloaded lessons.

This information is stored on the teacher's device securely until they go back online (over a Wi-Fi or 3G/4G connection) with the Teacher app.

For teachers, this provides a useful way to access key elements of SIMS online using the Teacher app or where no internet is available – providing greater flexibility, ease of use, peace of mind and the ability to use their app wherever they are. It's really useful if the teacher needs to take the class outside quickly and check attendance – for example a fire drill for the class.

How does it work – what does the teacher have to do?

The teacher first needs to login into the Teacher app with their Microsoft, Office 365, Google or Apple account.

If the school administrator has enabled offline working for the teacher, the app will automatically download the teacher's lessons for that day to their device and caches the information – this happens in the background – there is nothing the teacher needs to do.

The app will work as normal when online – if the teacher then goes out onto the games field the app will keep working seamlessly. The app shows if the system is online or offline.

When the teacher goes back online (connects to the internet) the app automatically synchronises back to the school's SIMS system. The teacher needs to access the app on their device to make the synchronisation update.

How does the teacher log into the Teacher app if the device has not internet connection?

The app includes a new 4-digit PIN access – when the teacher logs into the Teacher app when online, they are asked to set their own 4-digit PIN. If the device loses internet connection after this point, the teacher can use their PIN number to access the app.

What information does the offline working download?

The offline working feature downloads the teacher's lessons for the current day only. The information about the pupils/students who are in the teacher's lessons are also downloaded and can be accessed in offline mode.

The offline feature <u>does not</u> allow the teacher to access other teacher's lessons, any assessment marksheets or any other student details that are not included within the teacher's won lessons for that day.

Can the school choose which teacher can take data offline?

Yes – the school administrator can choose which teachers are enabled to have the offline feature. This provides greater control for the school on who they allow to access school information. The school's Teacher app management console allows the school admin to simple toggle on or off which teachers can have offline access.

Are assessment marksheets available offline?

No – the assessment marksheets are not currently included in the offline working feature – the teacher can access student information, record attendance, achievement and behaviour when in the offline mode.

What currently happens if the teacher loses their connection mid data entry, is the data lost completely or is there some sort of auto-save?

If the school enables offline working for their teachers, this allows the Teacher app to work online of offline (no internet connection available). For example, if the teacher loses their connection mid data entry (even with marksheets, the Teacher app keeps working seamlessly, and then auto-syncs the saved data back to the school's SIMS system when the internet connection is restored.

How long can the downloaded data be accessed for by the teacher?

The lessons for the day that has been downloaded to the device are available for the teacher to access until the app re-connects to the internet.

The data cached is not removed and remains securely encrypted on the device until the app synchronises with the school's SIMS system.

How does the data synchronise back to SIMS?

When the Teacher app re-connects over the internet, any data changes made by the teacher, for example, registration marks or conduct information, are automatically synchronised with the school's SIMS system. The teacher only has to make sure the Teacher app is online and they are logged in.

How long is the data cached for on the teacher's device?

The downloaded data remains securely encrypted on the device until the app updates with the school's SIMS system. Any updates/information recorded by the teacher using the app is saved until the app re-connects and synchronises with the school's SIMS system.

Is the cached data secure?

Yes – all data stored on the teacher's authorised device is encrypted using the international industry standard AES 256-bit encryption (Advance Encryption Standard). The encryption key is a combination of device specific information and a user defined PIN number sequence. The cached data is also excluded from any iTunes or iCloud back-up.

What happens if the teacher's device is lost or stolen – what happens to the data?

The cached data is securely encrypted on the device (AES 256 bit encryption). In addition, the secure 4-digit PIN code needed to access the app allows 5 attempts – if the PIN code is entered incorrectly repeatedly, all cached data is automatically deleted from the device.

Is the offline working available for both the iOS and Windows platforms?

Yes, the offline working feature is available for the Apple iOS and Windows versions of the SIMS Teacher app.

SIMS Teacher app Technical pre-requisites

SIMS system requirements

- The SIMS Teacher app is guaranteed to support the previous two releases of SIMS, inclusive of any release it is shipped with.
- The SIMS server must meet the Education Software Solutions recommended specification, available on request or from the [support portal](#).
- A local or domain user account will be needed to run the service.
- Connectivity to the SIMS SQL Server.

Checking your internet connection for the Teacher app system

The SIMS Teacher app connects to tablet devices (e.g. iPads) using Wi-Fi so you will need to have a good internet connection and Wi-Fi enabled in the areas staff will be using the Teacher app.

Staff can use Teacher app wherever there is Wi-Fi or via 4G – in school or at home for example.

Predicting your Internet bandwidth requirements is not an exact science. As your Internet provider will tell you, everything depends on the type of service you have (e.g. ADSL, Fibre, etc.) and how you are using it, and at what time of day.

To try and keep things simple, we recommend the following for your internet connection when using the Teacher app service:

- A minimum of a 2Mb download and upload uncontended connection for a single user with unlimited upload and download data transfer capacity.
- Remember, if you are using this connection for other things, like teachers or students browsing the Internet, or streaming media online, you will need to have enough bandwidth for this as well.
- The quality of your school's Internet connection is as important as the speed of the Internet connection when using the Teacher app service.
- If you are concerned about the potential speed and quality of your schools Internet connection we recommend running an internet speed test of your system before your school moves to the service.

Check the internet connection ports are open and the required URLs are whitelisted

As the SIMS Teacher app uses secure data connections to transfer data from SIMS to the school staff's tablet devices using the app, it is very important to ensure that any internet connections into the school have the required port open and URLs (web addresses) whitelisted.

Ports

The SIMS Teacher app service communicates with the Azure Service Bus via the TCP destination port 443.

URLs

The Teacher app service requires the following URLs to be whitelisted in any proxy server, firewall or web filtering system in use:

- *.servicebus.windows.net (note that the wildcard is important)
- www.simsteacherappactivation.co.uk
- www.simsteachermanagement.co.uk
- teacherapp.sims.co.uk
- teacherappsetup.sims.co.uk.

NOTE: These URLs must be whitelisted where a proxy server, firewall or web filtering system is in use.

Things to check on your school's internet access

Because many schools and their internet providers often use firewalls, web filtering and proxy servers for security your Teacher app service may not work correctly if you do not make sure the required connection ports are opened.

It is recommended that you contact your Network Manager at your school, your Local Authority or a contact at your Internet Service Provider (ISP) to discuss the following requirements.

i. Ports:
- The SIMS Teacher app service requires **outbound HTTPS connection through TCP port 443**.

ii. URLs/website addresses:

The Teacher app service requires the following URLs (web addresses) to be whitelisted in any proxy server, firewall or web filtering system in use on the school network:
- *.servicebus.windows.net (Note that the wildcard is important)
- www.simsteacherappactivation.co.uk
- www.simsteachermanagement.co.uk
- teacherapp.sims.co.uk
- teacherappsetup.sims.co.uk.

NOTE: These URLs must be whitelisted where any proxy server, firewall or web filtering system is in use.

> More information about the Teacher app technical requirements is available from SIMS on the support portal, by contacting the SIMS helpdesk or from your local SIMS support provider.

IP addresses

The SIMS Teacher App utilises the Microsoft Azure Service Bus for the secure, encrypted transmission of data.

The Microsoft Azure IP ranges **can change at any time** without notice and are outside of SIMS control – we recommend whitelisting the specified URLs rather than using defined IP addresses.

Please note: The Microsoft Azure IP ranges can change at any time without notice and are outside of SIMS control – we recommend whitelisting the specified URLs rather than using defined IP addresses. The Teacher app service for the school may be disrupted if the IP ranges are changed by Microsoft and not updated on the network used by the school.

Supported platform operating systems/devices

Please refer to this article on the support portal.

Devices

SIMS does not provide devices (iPads or other Windows compatible devices) as part of the Teacher app service – schools are required to provide the devices to be used.

Connectivity problems - Troubleshooting your firewall connection

Check the ports are opened on your internet connection

Many connectivity issues can be resolved by checking that the required ports are open if connecting from behind a firewall or proxy server, **locally at the school and also at your local internet gateway** – for example if your internet service is routed through a 3rd party, such as Local Authority or other IT provider.

The specified ports need to be open at your school connection point AND your local internet service gateway (e.g. your Local Authority internet connection) if your internet service comes through to the school via this method.

Configure the WinHTTP proxy settings

If you are running behind a firewall or proxy that requires authentication, or if you are running in an IPsec-protected network, there are additional obstacles for any client to reach the network proxy. For example, Windows accounts might not have permissions to communicate through the firewall. Therefore, you might have to explicitly configure the WinHTTP proxy settings with the appropriate credentials.

Set OpenTimeout

Setting the connectivity mode to HTTP (i.e. ConnectivityMode = http) may cause connections in the presence of some proxies to be very slow. For example, some connections can require up to 20 seconds to connect. Extending the OpenTimeout option for the service to up to two minutes can help, because the connection might run out of time between the acquisition of the token and getting the web stream working. After the web stream is established, the throughput often improves.

The Teacher app service requires the following URLs (web addresses) to be whitelisted in any proxy server, firewall or web filtering system in use on the school network:

- *.servicebus.windows.net *(note that the wildcard is important)*
- www.simsteacherappactivation.co.uk
- www.simsteachermanagement.co.uk
- teacherapp.sims.co.uk
- teacherappsetup.sims.co.uk.

IP addresses

The SIMS Teacher App utilises the Microsoft Azure Service Bus for the secure, encrypted transmission of data. The SIMS Teacher App uses the 'Europe North' presence in the Microsoft Azure Service Bus platform.

The Microsoft Azure IP ranges **can change at any time** without notice and are outside of SIMS control – we recommend whitelisting the specified URLs rather than using defined IP addresses.

Teacher app installation pre-requisites

- The person who completes the installation and configuration of the Teacher app services will need to have a Microsoft, Office 365 or Google account, which will also be used by the school administrator accessing the Teacher app management console.

  Note: if you are installing the Teacher app on behalf of a school – the Microsoft, Office 365 or Google account that is used to complete the installation will need to be provided to the school administrator to access the Teacher app management console.

- The SA password for your SIMS SQL instance if the account logging into the server with does not have SQL Sys Admin permissions.
- Credentials for a SIMS user with admin level access to SIMS.

Teacher app administration pre-requisites

The school administrator who will administer the SIMS Teacher app within the school will require a Microsoft, Office 365 or Google account to access the SIMS Teacher app administration console. This is required to provide an additional layer of authentication and security for access.

Internet access and the use of a latest supported internet browser: Internet Explorer, Chrome, Firefox or Safari.

Teacher pre-requisites

Teachers who access the SIMS Teacher app will need their own Microsoft, Office 365, Google or Apple account. This is required to provide an additional layer of authentication and security for access to the Teacher app.

Minimum bandwidth – a minimum of a 2Mb download and upload uncontended connection for a single user with unlimited upload and download data transfer capacity. The Teacher app can work over a stable 3G or 4G connection; however, it should be noted that 3G and 4G performance may vary, depending on location and network coverage.

SIMS and the SIMS Teacher app – key dependencies

The SIMS Teacher app utilises the following aspects of the main SIMS system to present relevant data and resources:

Timetabled sessions and lessons

The Teacher app will display AM and PM sessions (including cover sessions) from the school's SIMS system as default, with the assigned pupils and students showing within these sessions, as per the example below:
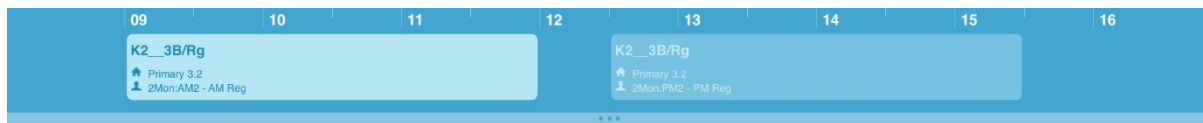
Lesson Monitor timetables

Where a school has SIMS Lesson Monitor active within their SIMS system, the Teacher app will display individual lessons or sessions (including cover lessons) as timetabled within SIMS – as per the example below:

No other configuration of timetabled lessons or sessions from SIMS will display within the Teacher app.

Attendance

The Teacher app integrates directly with SIMS attendance and will display the attendance codes as configured and set as active within the school's SIMS system.

Assessment Manager

The Teacher app integrates directly with SIMS Assessment Manager and will display assessment marksheets as available for the user, according to the specified availability and permissions within the school's SIMS system. Non-SIMS assessment Marksheets cannot be displayed within the Teacher app.

SIMS Dinner Money

The Teacher app integrates directly with SIMS Dinner Money where schools are using this – the app allows the dinner register to be viewed and updated as part of the attendance feature. The app also shows pupil's meal selections where these have been defined as meal patterns within SIMS Dinner Money.

SIMS Teacher app Security and Authentication

Authentication

The SIMS Teacher app service provides authentication in accordance with the UK government's National Technical Authority for Information Assurance (CESG) 'Guidance for End User Devices Security Guidance: General Security Recommendations':

1. **User to service:** The user is only able to access the SIMS Teacher app service after successfully authenticating to the service, via their device.

2. **Device to service:** Only devices which can authenticate to the SIMS Teacher app service are granted access.

Security

The SIMS Teacher app is a securely hosted web delivered service, with data securely transferred in real-time and encrypted between the school's SIMS system (locally or centrally hosted) via the web using standard secure HTTPS TCP/IP protocols to devices authenticated by the school. No school data is stored in the Azure platform (cloud) – data is only transferred via the Microsoft Windows Azure platform (Service Bus).

All data is securely transferred and processed within the EU and complies with UK data protection standards and requirements.

All traffic to and from the SIMS Teacher app service is accessed using standard web protocols (HTTPS) and secured using the appropriate SSL certificates. Services are tiered following industry and software vendor best practice principles.

The network architecture is compliant to ISO27001 and utilises a multi-tier isolated VLAN design with fully managed software firewalls on each server, IDS/IPS, SQL firewalls, data encryption and load balancing to ensure security and performance for all users of the SIMS Teacher app service.

The SIMS Teacher app service is fully penetration tested at the application layer and externally by a nominated Security company every quarter.

Device security

SIMS recommends that the school has additional security policies in place to include the use of devices containing school data inside and outside of school premises. Furthermore, it is strongly recommended that the school incorporates additional device security measures that enable the school to remotely wipe, disable and locate a device.

Schools are advised to implement fully an MDM (Mobile Device Management) service allowing for centralised management of security policies, and at a minimum enforce:

- Device passcode
- Regular device passcode change
- Wipe on repeated device passcode failure
- Remote wipe
- Disable screenshot capture on the device.

In addition, schools are advised to ensure the following are in-place for devices that are authorised for access to the SIMS Teacher app service:

- Security tag devices
- Conduct a regular physical audit of devices
- Supply users with best practice advice and a governance policy for use and storage of the devices.

Device loss

In the event of a device loss, the following best-practice advice is recommended:

1. Immediately attempt a remote wipe of the device if possible.
2. Disable the teacher's SIMS account for at least 24 hours to be certain the session has expired.
3. Reset the SIMS password for the teacher.
4. Reset the Microsoft, Office 365, Google or Apple account for the teacher.
5. Deactivate / revoke the device and the account in the SIMS Teacher app service management console.
6. Re-activate the user through a new device association and teacher account activation code after 24 hours.

Two-step (2-factor) authentication for Administrator and Teacher Access

Education Software Solutions (ESS) recommend that schools enable two-step (two-factor) authentication for their SIMS Teacher app administrator and teacher access account (Microsoft, Office 365, Google or Apple) as an extra layer of security.

Two-step authentication provides an increased level of security for Microsoft, Office 365, Google or Apple accounts as additional information will be required to access an associated account.

Two-step authentication is enabled within the Microsoft, Office 365, Google or Apple account (not within the SIMS Teacher app) and when setup, each time the user accesses the SIMS Teacher app they will be asked for two pieces of information in addition to their username. The user will be asked to enter their password plus a security code and they will only gain access to the system with these details.

Microsoft, Office 365, Google or Apple will send a unique access code to the user's designated mobile phone via SMS, to a Microsoft, Google or Apple app, or via email. This code will provide secure access to the SIMS Teacher app system.

Important Note: Two-step verification is a great tool to help protect a Microsoft, Office 365, Google or Apple account, but it does require the user to keep their account up to date and ensure all login details are kept securely. If the user's security information changes (phone or alternative email), it's important to update their Microsoft, Google or Apple account before they discard of any old information.

If the user knows their password but lose access to their secondary security proof, neither ESS, Microsoft, Google nor Apple customer support cannot update it for them. The user's only option is to go through a recovery process that enforces a 30 day wait before they regain access to their account –this is to ensure someone malicious hasn't used this as a way to take over their account.

If the user loses access to their password AND all OTHER security information, they will not be able to regain access to their account – this is a security measure. A new teacher app account will need to be setup in the management console and the teacher will need to re-authenticate with a different Microsoft, Google or Apple account.

More information on how to enable two-step (two-factor) authentication for Microsoft accounts is available from the Microsoft website.

More information on how to enable two-step (two-factor) authentication for Google accounts is available from the Google website.

More information on how to enable two-factor authentication for Apple accounts is available from the Apple website.

For information on how to keep information protected please also see http://www.getsafeonline.org/

SIMS Teacher app Service High-level Architecture

The high level architecture of the SIMS Teacher app service is described in the diagram below:
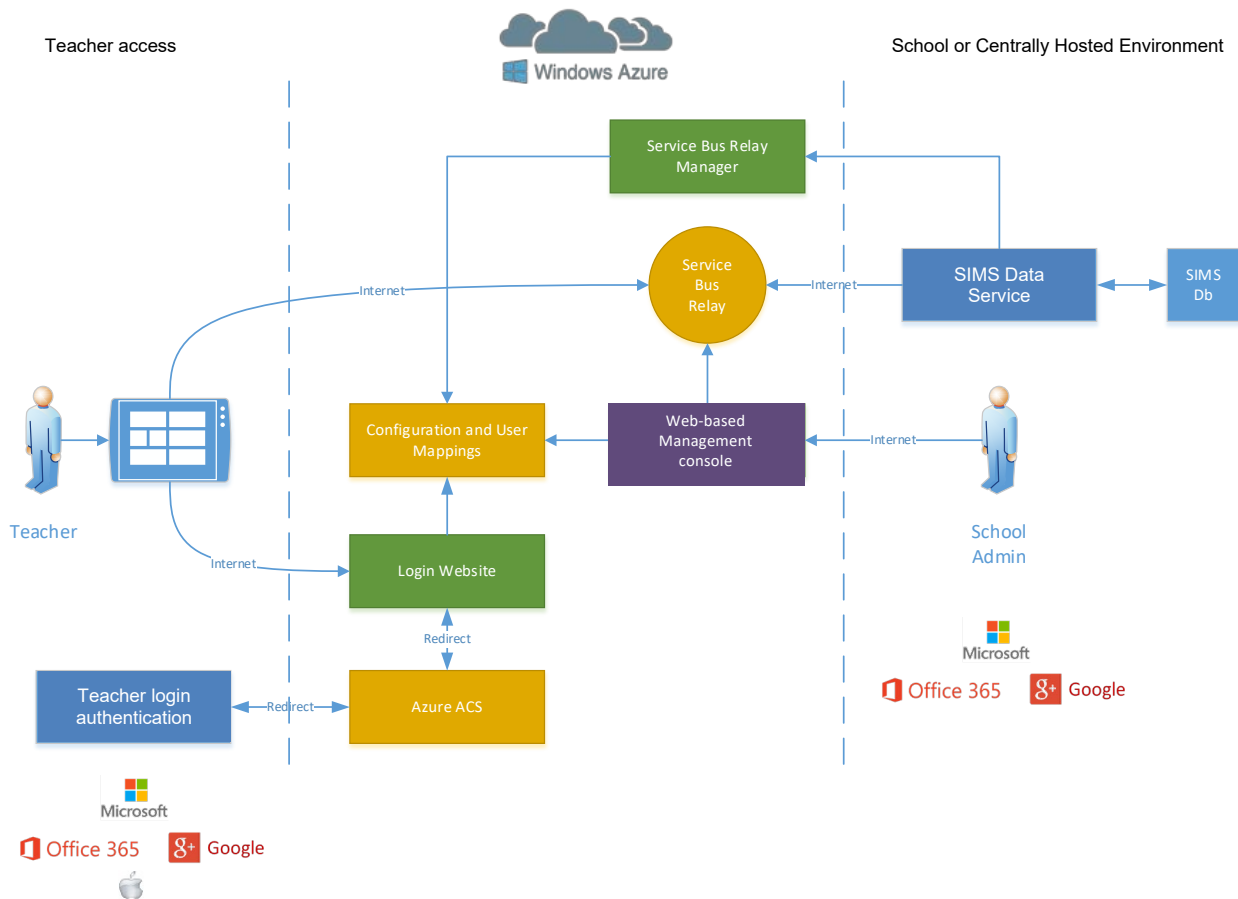
SIMS Teacher app Data Sharing update

This section provides an update about the SIMS Teacher app data sharing, including the safeguarding and security of data used within the Teacher app service. This update will form part of a Data Sharing Agreement (DSA), which should be understood by all establishments using the SIMS Teacher app service.

SIMS Teacher app Data Movement Overview

The SIMS Teacher app service operates with the SIMS system and interfaces data through the SIMS Services manager. Selected school information is transferred to the Teacher application on the authorised device through SIMS data service. The data from the device is wirelessly synchronised with the school's SIMS system with the Teacher app and supporting service ensuring the data is updated in real-time, including timetables, attendance information, student/pupil details and other related information used within the Teacher app.

SIMS Teacher app Transfer and Use of Personal Information

The SIMS Teacher app does not cache personal information on the app. The following information lists the maximum available data that can be accessed using the SIMS Teacher app:

Students/Pupils

- Forename
- Surname
- Preferred name
- Date of birth
- Family/Home contact details for each pupil/student, specifically:
    - Contact Name
    - Contact Address
    - Contact telephone number
    - Contact email address
- Medical information
- Dietary information
- Achievement data
- Behaviour data
- Timetable
- Pupil/student photograph
- Pupil student's academic house, year group and registration group.

Staff

- Forename
- Surname
- Timetable
- Teacher photograph.

SIMS takes data protection and the safety and security of data in the SIMS Teacher app very seriously, and takes all reasonable measures to ensure the safety and security of data in the SIMS Teacher app, including personal information to maintain compliance with relevant parts of the 1998 Data Protection Act.

Support included for the SIMS Teacher app service

The SIMS Teacher app service subscription includes support from Education Software Solutions (ESS) to help schools when needed. The support service for the Teacher app includes telephone, email, web and remote support to support your SIMS Teacher app at school.

Support services provided by ESS

Support provided as part of the Teacher app service covers:

- Support for the Teacher app software for tablet devices – iOS and Windows platforms.

- Support for the Teacher app management console.

- Support for the SIMS Services Manager.

- Support for the SIMS Teacher app data services.

Support services not provided by ESS

Support provided as part of the Teacher app service does not include the following:

- Support for the device or hardware, including operating system, MDM (Mobile Device Management) system or other 3rd party non-SIMS apps, services or management tools.

- Support for setting up, managing or administering Microsoft, Google or Apple accounts or the school's Office 365 active directory.

- Support for the technical environment, network or infrastructure, for example:
    - Support for the school's Network or Wi-Fi connectivity – either in school or via an external provider.
    - Support for the school's Proxy or Firewall connections – either in school or via an external provider.

Enhanced Support provided by ESS

Support coverage for customers with an Enhanced Support contract will be determined by the level of support purchased as part of their Annual Entitlement. However, this does not include support of iOS Apple or Windows devices or hardware.